

## CLAIMS

What is claimed is:

1. A plant growth system comprising:
  - a vertically positioned source of light;
  - a reservoir;
  - a pump;
  - a volume of liquid based nutrient composition;
  - a plurality of stacked independent growing chambers arranged in a planar array around said one or more sources of light, each of said growing chambers comprising a container portion with a base and sides, an inflow/outflow gate accommodated in the base of said container portion, an height adjustable overflow gate accommodated within said container portion; and drainage plumbing connecting said container portion with said reservoir;
  - wherein each of said growing chambers accommodates one or more plant holding containers; and
  - wherein when said pump is activated, said pump transports said nutrient composition from the reservoir through the inflow/outflow gate into said growing chambers; and
  - wherein when one of said growing chambers becomes flooded to the level of said overflow gate, said overflowing nutrient composition is returned to said reservoir via said drainage plumbing;
  - and wherein when said pump is deactivated, said nutrient composition remaining in each growing chamber returns to the reservoir via the inflow/outflow gate.

2. The plant growth system as recited in Claim 1, wherein there is a plurality of said vertically positioned sources of light.

4. The plant growth system as recited in Claim 1, wherein said growing chamber is comprised primarily of a polyethylene material.

5. The plant growth system as recited in Claim 1, wherein said inflow/outflow gate is a plurality of inflow/outflow gates.

6. The plant growth system as recited in Claim 1, wherein said overflow gate is a plurality of overflow gates.

7. The plant growth system as recited in Claim 1, wherein the pump is activated and deactivated by a timer.

8. A plant growth method comprising the steps of:

activating a pump wherein said pump transports said nutrient composition from the reservoir through the inflow/outflow gate into said growing chambers; and wherein when one of said growing chambers becomes flooded to the level of said overflow gate, said overflowing nutrient composition is returned to said reservoir via said drainage plumbing; and

deactivating said pump wherein said nutrient composition that is remaining in each growing chamber returns to the reservoir via the inflow/outflow gate

using an apparatus comprised of:

a vertically positioned source of light;

said reservoir;

said pump;

said volume of liquid based nutrient composition;

a plurality of stacked independent growing chambers arranged in a planar array around said one or more sources of light, each of said growing chambers comprising a container portion with a base and sides, an inflow/outflow gate accommodated in the base of said container portion, an height adjustable overflow gate accommodated within said container portion; and drainage plumbing connecting said container portion with said reservoir wherein each of said growing chambers accommodates one or more plant holding containers.

9. The plant growth method as recited in Claim 8, wherein said vertically positioned source of light of said apparatus is comprised of a plurality of said vertically positioned sources of light.

10. The plant growth method as recited in Claim 8, wherein said growing chamber of said apparatus is comprised of polyethylene material.

11. The plant growth method as recited in Claim 8, wherein said inflow/outflow gate of said apparatus is comprised of a plurality of inflow/outflow gates.

12. The plant growth method as recited in Claim 8, wherein said overflow gate of said apparatus is comprised of a plurality of overflow gates.

13. The plant growth method as recited in Claim 8, wherein said apparatus is further comprised of a timer to activate and deactivate said pump.